SECTION 1 - GENERAL

This manual is provided to acquaint the pilot with the limitations as well as normal and emergency operating procedures of the King 150 Series Automatic Flight Control Systems. The limitations presented are pertinent to the operation of the 150 System as installed in the Beech Models A36, A36TC and B36TC airplanes; the Flight Control Systems must be operated within the limitations herein specified.

The 150 Series AFCS is certified in this airplane with 2 axis autopilot control, pitch and roll, or 3 axis control if the optional yaw damper is installed. The 3rd axis (Yaw), when installed, provides yaw damping and turn coordination whenever the autopilot is engaged. With the installation of the optional Yaw Damper Switch, yaw damping and turn coordination are available with or without initially engaging the autopilot. Both 2 axis and 3 axis systems are described in this manual.

The 150 Series AFCS has an electric pitch trim system which provides autotrim during autopilot operation and manual electric trim for the pilot. The trim system is designed to withstand any single inflight malfunction. Trim faults are visually and aurally annunciated.

A lockout device prevents autopilot engagement until the system has been successfully preflight tested.

SECTION 1
GENERAL

The following conditions will cause the Autopilot to automatically disengage:

A. Power failure.

B. Internal Flight Control System failure.

C. With the KCS 55A Compass System, a loss of compass valid (displaying HDG flag) disengages the Autopilot when a mode using heading information is engaged. With the HDG flag present, the Autopilot may be re-engaged in the basic wings level mode along with any vertical mode.

D. Roll rates in excess of 14° per second will cause the autopilot to disengage except when the CWS switch is held depressed.

E. Pitch rates in excess of 5° per second will cause the autopilot to disengage except when the CWS switch is held depressed.

SECTION 3 - EMERGENCY PROCEDURES

A. In case of Autopilot malfunction: (accomplish Items 1 and 2 simultaneously)

1. Airplane Control Wheel - GRASP FIRMLY and regain aircraft control.

2. A/P DISC/TRIM INTER Switch - PRESS and HOLD.

3. A/P DISC/TRIM INTER Switch - RELEASE while observing pitch trim wheel. If pitch trim wheel is in motion, follow the Electric Trim Malfunction Procedure.

B. In case of Electric Trim Malfunction (either manual electric or autotrim):

1. A/P DISC/TRIM INTER Switch - PRESS and HOLD throughout recovery.

2. TRIM Circuit Breaker - OFF.

3. Aircraft - RETRIM manually.

CAUTION

WHEN DISCONNECTING THE AUTOPILOT AFTER A TRIM MALFUNCTION, HOLD THE CONTROL WHEEL FIRMLY; UP TO 45 POUNDS OF FORCE ON THE CONTROL WHEEL MAY BE NECESSARY TO HOLD THE AIRCRAFT LEVEL.

SECTION 3
EMERGENCY PROCEDURES

Maximum Altitude losses due to autopilot malfunction:

Configuration	Alt Loss
Cruise, Climb, Descent	480'
Maneuvering	80'
APPR	80'